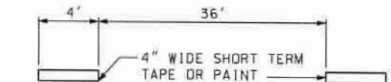
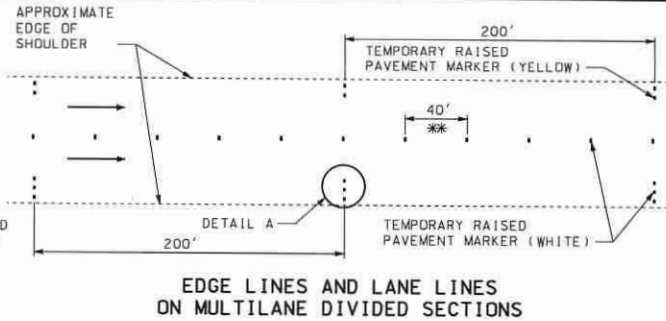
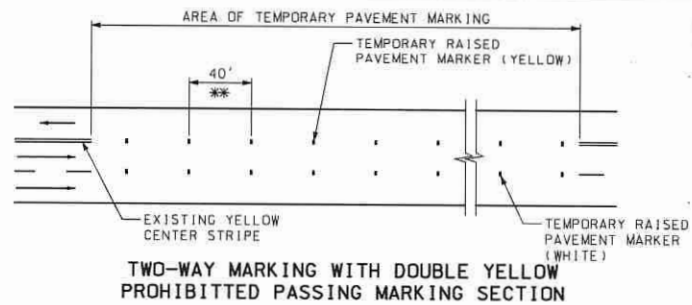
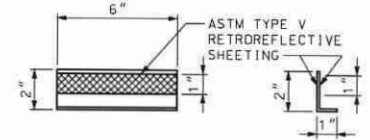


IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

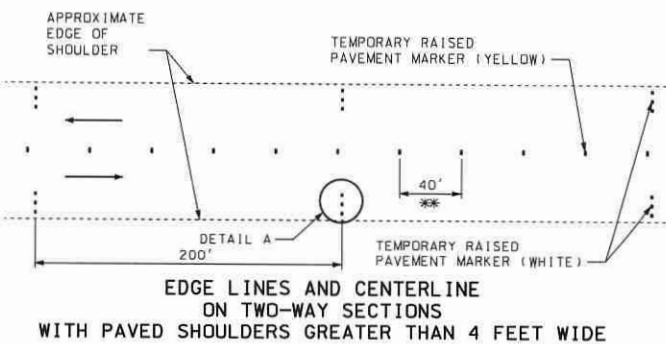
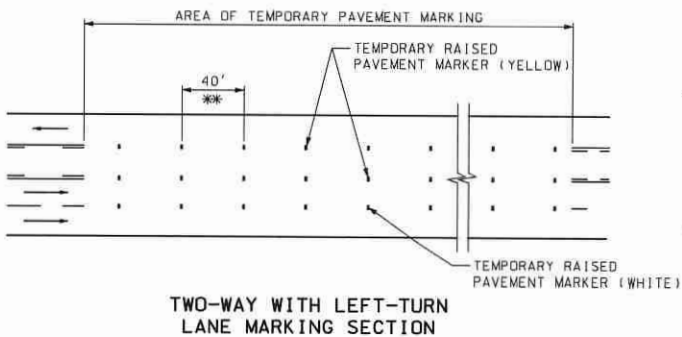


*** OPTIONAL TEMPORARY PAVEMENT MARKING DETAIL FOR INTERMEDIATE LIFTS**



ELEVATION SIDE

TYPICAL TEMPORARY RAISED PAVEMENT MARKER DETAIL



GENERAL NOTES:

TEMPORARY PAVEMENT MARKING IS REQUIRED WHEN 200 CONSECUTIVE LINEAR FEET OR MORE OF PERMANENT PAVEMENT MARKING HAS BEEN OBLITERATED, OR AS DIRECTED BY THE ENGINEER.

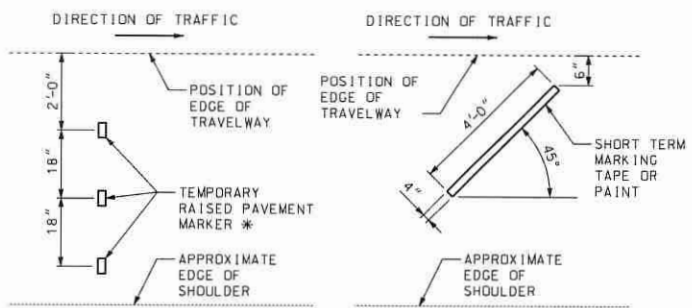
TEMPORARY RAISED PAVEMENT MARKERS (TRPMS), OR THE OPTIONAL 4" X 4" SHORT TERM TAPE OR PAINT, WHEN ALLOWED, SHALL BE MAINTAINED IN PLACE AND RETROREFLECTIVE UNTIL THE PERMANENT PAVEMENT MARKINGS ARE INSTALLED. MISSING OR NON-REFLECTIVE MARKINGS SHALL BE REPLACED AT NO ADDITIONAL COST TO THE COMMISSION WHEN 10% OR MORE ARE DEFICIENT WITHIN ONE MILE OR WHEN 4 OR MORE CONSECUTIVE MARKINGS ARE DEFICIENT.

FOR INTERMEDIATE LIFTS, 4" X 4" SHORT TERM TAPE OR TEMPORARY PAINT MAY BE USED IN LIEU OF TRPMS.

TRPMS USED ON INTERMEDIATE LIFTS SHALL BE REMOVED PRIOR TO PLACEMENT OF THE NEXT LIFT.

ALL TEMPORARY MARKINGS SHALL BE REMOVED BY THE CONTRACTOR AFTER INSTALLATION OF PERMANENT MARKINGS, EXCEPT WHEN PERMANENT MARKINGS ARE TO BE INSTALLED BY OTHERS.

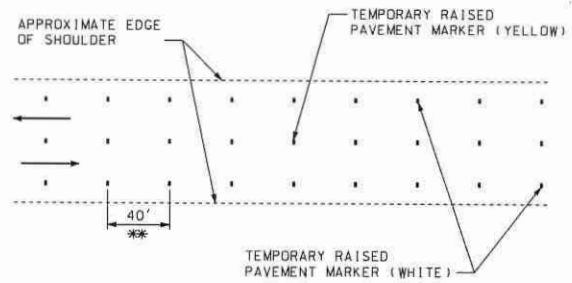
TEMPORARY TAPE SHALL NOT BE USED FOR TEMPORARY MARKING ON THE FINAL SURFACE EXCEPT WHEN SPECIFIED IN THE PLANS.





DETAIL A

* THREE TEMPORARY RAISED PAVEMENT MARKERS SHALL BE USED IF SHOULDER IS 6' OR WIDER. OTHERWISE, USE TWO TEMPORARY RAISED PAVEMENT MARKERS.

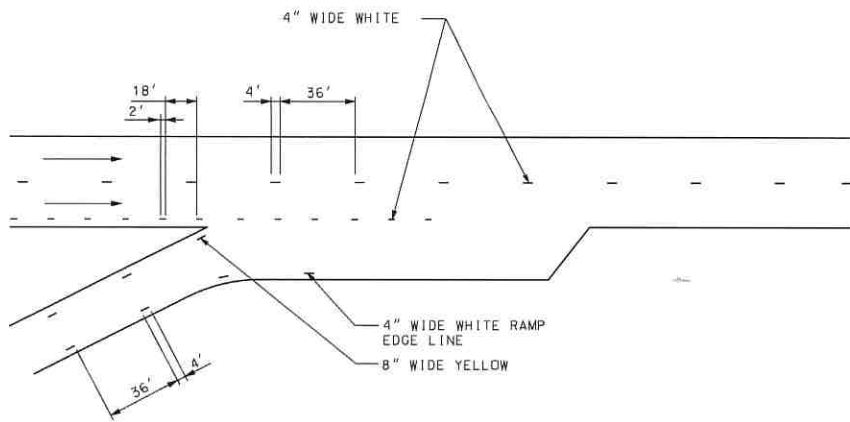
OPTIONAL DETAIL A FOR INTERMEDIATE LIFT



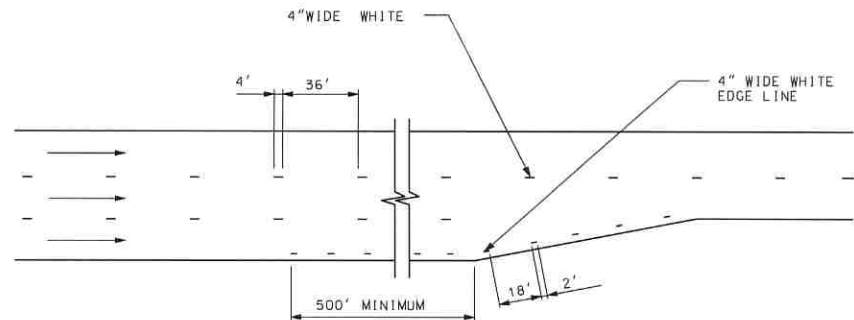
EDGE LINES AND CENTERLINE ON TWO-WAY SECTIONS WITH PAVED SHOULDERS 4 FEET WIDE OR LESS, AGGREGATE OR EARTH SHOULDERS OR NO SHOULDERS

 MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MDOT (1-888-275-6636)	
	TEMPORARY PAVEMENT MARKING TEMPORARY PAVEMENT MARKING
DATE EFFECTIVE: 07/01/2017 DATE PREPARED: 5/1/2017	620.10G
SHEET NO. 1 OF 5	

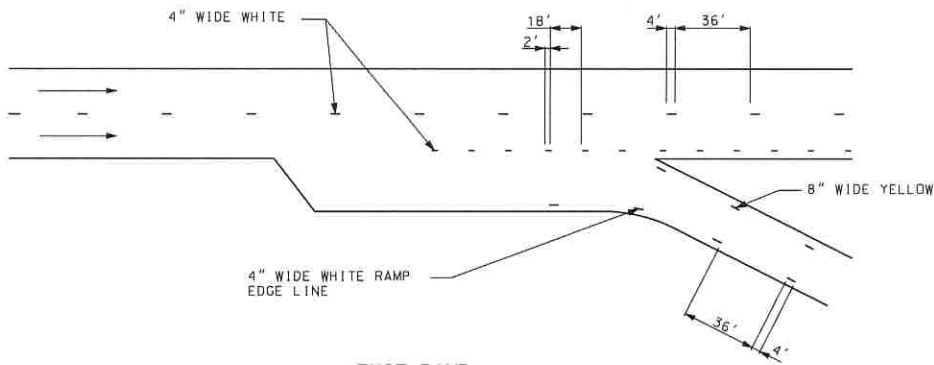
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



ENTRANCE RAMP



LANE TRANSITION



EXIT RAMP

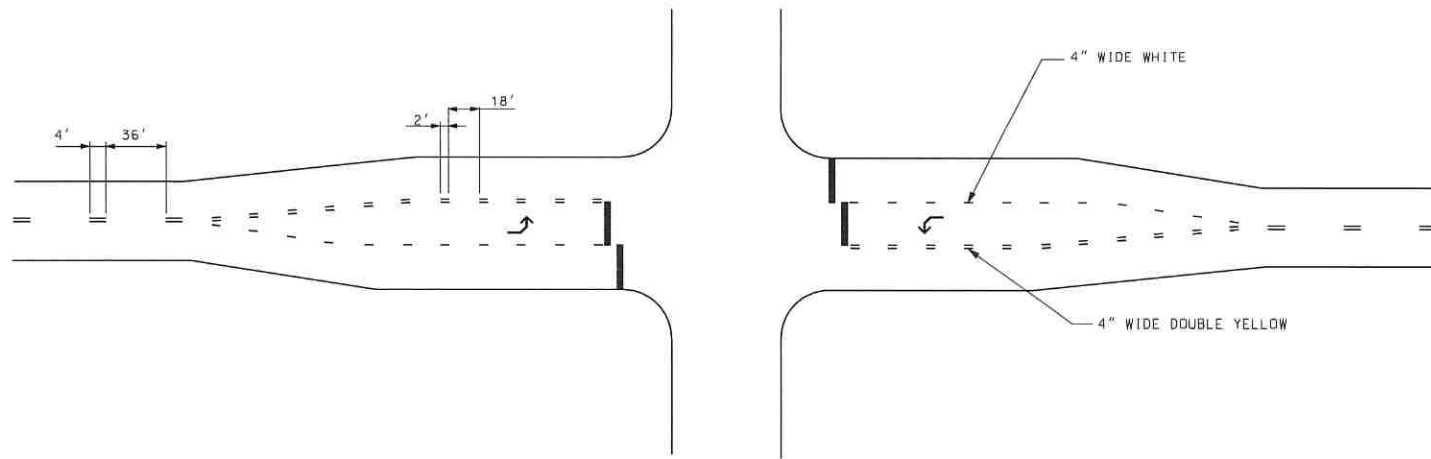
GENERAL NOTES:

TEMPORARY PAVEMENT MARKING IN INTERSECTIONS, RAMPS, GORES AND OTHER TRANSITION AREAS USE AN INTERMITTENT MARKING OF 2 FEET LONG AT A CYCLE OF 20 FEET.

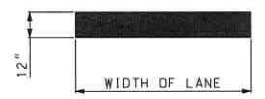
LIMITS OF TEMPORARY GORE MARKING ARE THE SAME AS THE EXISTING GORE LINES.

	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 108 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	TEMPORARY PAVEMENT MARKING LANE TRANSITION AND RAMP AREAS	
DATE EFFECTIVE: 07/01/2017 DATE PREPARED: 5/1/2017	620.10G	SHEET NO. 2 OF 5

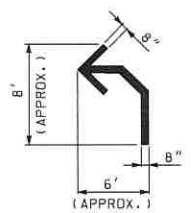
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



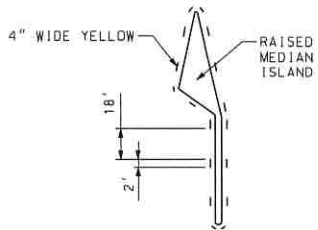
PLAN VIEW



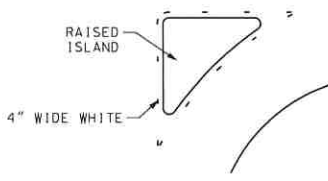
TEMPORARY STOP BAR DETAIL (WHITE)



TEMPORARY ARROW DETAIL (WHITE)



RAISED DIVISIONAL ISLAND



RAISED CHANNELIZING ISLAND

GENERAL NOTES:

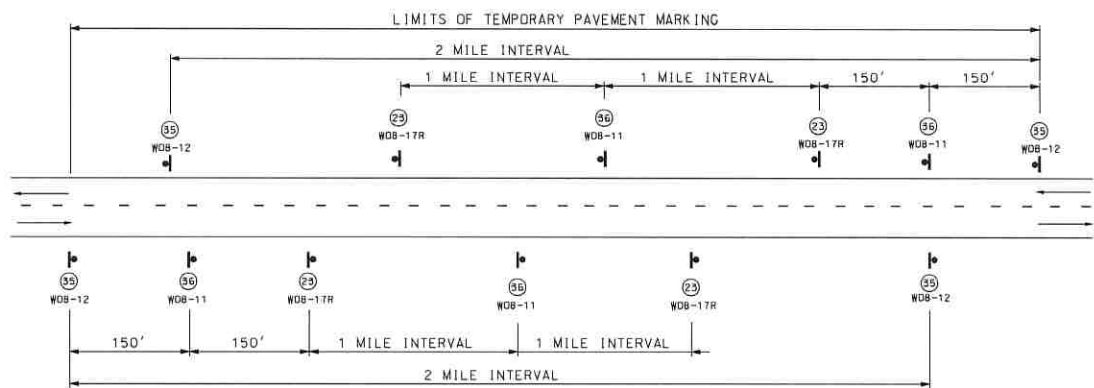
TEMPORARY ARROWS AND STOP BARS ARE REQUIRED WHEN GEOMETRIC MODIFICATIONS DURING CONSTRUCTION CREATE LANE CONFIGURATIONS DIFFERENT THAN EXISTING, OR THE EXISTING PAVEMENT MARKING INCLUDES THEM.

YELLOW AND WHITE TEMPORARY MARKING AROUND ISLANDS ONLY REQUIRED WHEN THE ISLAND CURB IS NOT PAINTED.

TEMPORARY PAVEMENT MARKING IN INTERSECTIONS, RAMP GORES AND OTHER TRANSITION AREAS USE AN INTERMITTENT MARKING 2' LONG AT A CYCLE OF 20'.

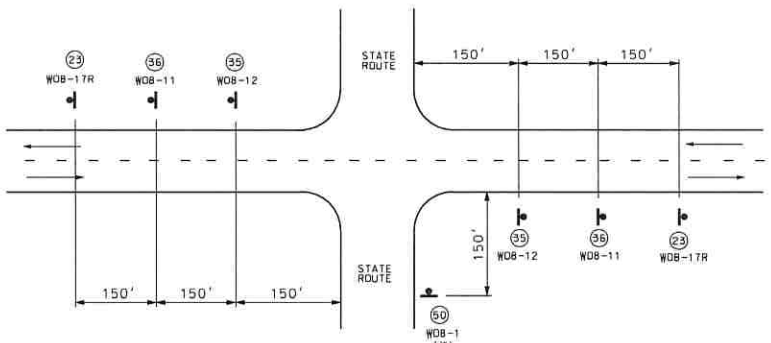
	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	TEMPORARY PAVEMENT MARKING INTERSECTIONS	
DATE EFFECTIVE: 07/01/2017 DATE PREPARED: 5/1/2017	620.10G	SHEET NO. 3 OF 5

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



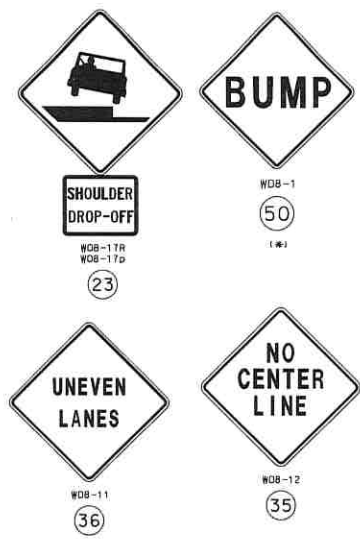
SIGN SPACING FOR MAINLINE

(DETAIL SHOWN IS BASED ON A PROJECT MEETING ALL CONDITIONS: NO CENTER STRIPE, UNEVEN LANES, SHOULDER DROP-OFF AND BUMP.) WHEN BOTH UNEVEN LANES AND SHOULDER DROP-OFF SIGNS ARE USED, BOTH SIGNS SHALL STAY IN PLACE UNTIL BOTH CONDITIONS NO LONGER EXIST. IF ONLY ONE CONDITION EXISTS (UNEVEN LANES OR SHOULDER DROP-OFF), THE SIGN SPACING SHALL BE AT 1 MILE INTERVALS.



SIGN SPACING AT STATE ROUTE INTERSECTIONS

(M) BUMP SIGN SHOULD BE IN ACCORDANCE WITH STANDARD PLAN 619.10.



GENERAL NOTES:

FOR DETAILS OF TEMPORARY PAVEMENT MARKING, SEE SHEET 1 OF 5.

SIGN (35) AND TEMPORARY PAVEMENT MARKING INSTALLED WHERE CENTERLINE STRIPING HAS BEEN COVERED OR REMOVED. SIGNS ARE TO REMAIN IN PLACE UNTIL THE PERMANENT CENTERLINE PAVEMENT MARKINGS ARE IN PLACE. SIGNS SHALL BE COVERED OR REMOVED WHEN PAVEMENT CENTERLINE MARKING HAS BEEN INSTALLED.

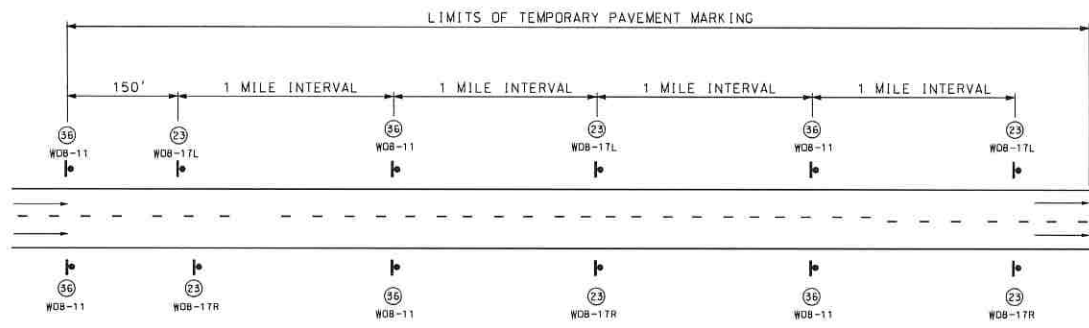
SIGN (35) IS PLACED AT APPROXIMATELY TWO-MILE INTERVALS AND AT STATE ROUTE JUNCTIONS. WHEN THE INSTALLATION AT A JUNCTION IS WITHIN ONE-EIGHTH MILE OF THE NORMAL MAINLINE SIGN (35), THE LATTER MAY BE ELIMINATED.

ALL SIGNS SHALL BE POST MOUNTED AND IN ACCORDANCE WITH STANDARD PLAN 616.10 AND 903.03.

WHEN SHOULDER DROP-OFF SIGNS ARE IN PLACE FOR GREATER THAN THREE DAYS, THE SHOULDER DROP-OFF PLAQUE SHOULD BE USED IN ADDITION WITH THE SHOULDER DROP-OFF SIGN.

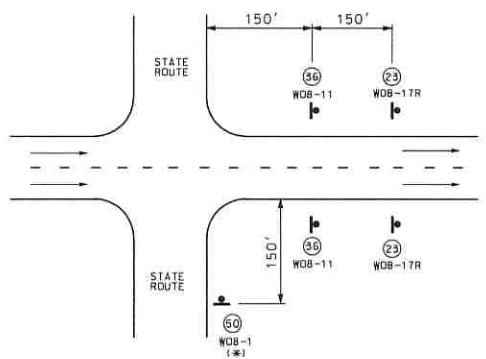
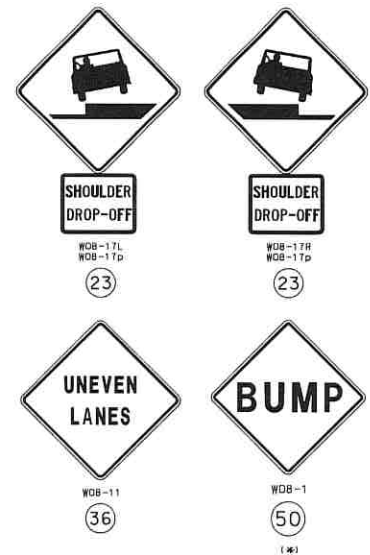
	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	TEMPORARY PAVEMENT MARKING TWO-LANE TWO-WAY HIGHWAY	
	DATE EFFECTIVE: 07/01/2017 DATE PREPARED: 5/1/2017	SHEET NO. 620.10G 4 OF 5

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



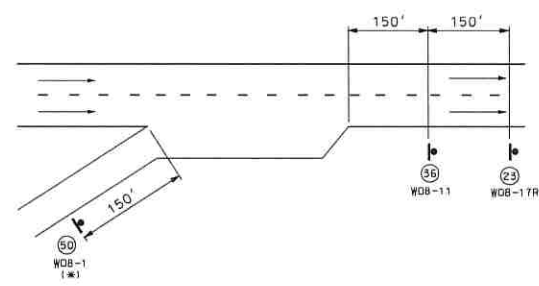
SIGN SPACING FOR DIVIDED OR MULTI-LANE HIGHWAY

(DETAIL SHOWN IS BASED ON A PROJECT MEETING CONDITIONS OF UNEVEN LANES AND SHOULDER DROP-OFF.)
 WHEN BOTH UNEVEN LANES AND SHOULDER DROP-OFF SIGNS ARE USED, BOTH SIGNS SHALL STAY IN PLACE UNTIL BOTH CONDITIONS NO LONGER EXISTS.
 WHEN ONLY ONE CONDITION EXISTS (UNEVEN LANES OR SHOULDER DROP-OFF), SIGN SPACING SHALL BE AT 1 MILE INTERVALS



SIGN SPACING AT STATE ROUTE INTERSECTIONS

(*) BUMP SIGN SHOULD BE IN ACCORDANCE WITH STANDARD PLAN 619.10.



SIGN SPACING AT RAMPS

(*) BUMP SIGN SHOULD BE IN ACCORDANCE WITH STANDARD PLAN 619.10.

GENERAL NOTES:

FOR DETAILS OF TEMPORARY PAVEMENT MARKING, SEE SHEET 1 OF 5.

ALL SIGNS SHALL BE POST MOUNTED AND IN ACCORDANCE WITH STANDARD PLANS 616.10 AND 903.03.

WHEN SHOULDER DROP-OFF SIGNS ARE IN PLACE FOR GREATER THAN THREE DAYS, THE SHOULDER DROP-OFF PLAQUE SHOULD BE USED IN ADDITION WITH THE SHOULDER DROP-OFF SIGN.

	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	TEMPORARY PAVEMENT MARKING DIVIDED AND MULTI-LANE HIGHWAYS	
DATE EFFECTIVE: 07/01/2017 DATE PREPARED: 5/1/2017	620.10G	SHEET NO. 5 OF 5

SECTION 620 PAVEMENT MARKING

620.1 Description. This work shall consist of furnishing, installing, maintaining and removing temporary and permanent pavement marking as shown on the plans, as specified herein or as directed by the engineer.

620.2 General.

620.2.1 All roadways open to traffic shall have either temporary or permanent pavement markings. Temporary pavement marking may be used in lieu of permanent marking for no more than 14 days after completion of final paving operations or, in the case of pavement markings placed in rumble strips, for no more than 14 days after completion of rumble strips, except as otherwise allowed in [Sec 620.10.2.3.1](#).

620.2.2 All pavement marking shall be in accordance with the latest edition of the MUTCD and the FHWA Standard Highway Signs at the time of the bid opening.

620.2.3 All pavement marking shall be uniform in appearance with crisp, well-defined edges and shall be uniform in width and thickness. Surface distribution of the beads shall be uniform.

620.2.4 Longitudinal pavement marking shall not be placed on longitudinal joints.

620.2.5 The contractor will be responsible for the protection of all liquid pavement marking until the pavement marking has reached a no-track state as determined by the engineer.

620.2.6 Damage to pavement marking as a result of the contractor's operations, including resurfacing of shoulders, shall be repaired or replaced at the contractor's expense.

620.2.7 All pavement marking shall be installed in accordance with this specification and all manufacturer's recommendations. Manufacturer's written application or installation instructions shall be provided by the contractor to the engineer.

620.2.8 When surface preparation is required, the area prepared shall be 1 inch wider than the final pavement marking and shall meet the requirements of [Sec 620.20.1.4](#). The method of surface preparation shall not cause structural damage to the pavement and shall meet the approval of the engineer.

SECTION 620.10 TEMPORARY PAVEMENT MARKING.

620.10.1 General.

620.10.1.1 Quality Control and Quality Assurance. Quality Control and Quality Assurance shall be in accordance with [Sec 620.40](#).

620.10.1.2 Temporary Pavement Marking following Obliteration of Existing Markings. When the contractor obliterates existing pavement markings by cold milling, grinding, resurfacing or for any other operation, the contractor shall, at the contractor's expense, provide and maintain temporary pavement marking in accordance with the plans and as specified in [Sec. 1048.10](#) until permanent pavement markings are in place. The contractor shall place temporary or permanent pavement markings on all open lanes of traffic at the completion of each daily operation prior to leaving the work zone unattended. At no time shall more than one mile of roadway be unmarked. Pavement marking shall be replaced in the same configuration as the previously existing pavement marking unless otherwise shown on the plans or directed by the engineer.

620.10.1.3 Two-lane, two-way roadways shall be marked as shown on the plans. When TRPMs or tape is used to mark the centerline of two-lane, two-way roadways, no-passing zone signs shall be posted as shown on the plans in lieu of marking the no-passing zones. When paint is used for temporary markings the no-passing zone signs are not required, however the temporary paint shall be applied according to [Sec 620.10.2.3.6](#) No-Passing Zones.

620.10.1.4 On resurfacing projects, when the adjacent layer of resurfacing has not been placed and the existing centerline or lane line marking has been obliterated, the temporary marking shall be placed on the higher layer at the centerline of the roadway or lane. Any temporary pavement marking damaged, displaced or missing before

the final pavement marking is installed shall be replaced at the contractor's expense within two hours upon notification from the engineer.

620.10.1.5 If temporary pavement marking is to be in place for more than the time limit specified in [Sec 620.2.1](#), the engineer may require that temporary paint be placed and maintained at the contractor's expense. See [Sec 620.10.2](#) for paint specifications.

620.10.1.6 For temporary marking durations of less than two weeks and when removal of the temporary marking is not required, temporary non-removable pavement marking tape may be used as specified in [Sec 620.10.4](#).

620.10.1.7 Temporary Pavement Marking for Traffic Pattern Changes. The contractor shall place temporary pavement markings for bypasses, lane shifts, narrow lanes and other traffic pattern changes as shown on the plans. Temporary paint shall not be used in lieu of tape without approval from the engineer. The contractor shall install and maintain temporary pavement marking until the permanent marking material has been placed as specified in the contract.

620.10.1.8 For temporary pavement marking of traffic pattern changes on the final driving surface that will require subsequent removal of the temporary markings, temporary removable pavement marking tape shall be used as specified in [Sec 620.10.3](#), unless otherwise shown on the plans or approved by the engineer.

620.10.2 Temporary Pavement Marking Paint.

620.10.2.1 Description. This work shall consist of furnishing and placing temporary pavement marking paint at locations shown on the plans or as directed by the engineer. Weather limitations shall be as specified in [Sec 620.20.2.4](#). When ambient air and surface temperatures are below 60° F, cold weather paint may be used in accordance with [Sec 620.10.6](#) at no additional cost to the Commission.

620.10.2.2 Material. Temporary pavement marking material paint and glass beads shall be in accordance with [Division 1000](#), Material Details, and specifically as follows:

Item	Section
High Build Acrylic Waterborne Pavement Marking Paint	1048.20.1.1
Type P Drop-On Glass Beads	1048.30

620.10.2.3 Construction Requirements.

620.10.2.3.1 Temporary paint may be used as temporary pavement markings for the duration of the project. Retroreflectivity shall be maintained as specified in [Sec 620.40.2.2.4](#), at the contractor's expense, for as long as the temporary pavement marking paint is in place.

620.10.2.3.2 The minimum thickness of the painted markings shall be no less than 18 mils. Lane lines, edge lines and no-passing lines shall be 4 inches in width. Type P drop-on glass beads, in accordance with [Sec 620.30.3](#), shall be used for temporary paint applications.

620.10.2.3.3 It is allowable to place a temporary paint line prior to cutting the rumble strip along that line. After cutting the rumble, the remaining portion of the temporary paint line is considered sufficient temporary pavement marking until the permanent line can be placed.

620.10.2.3.4 When temporary pavement marking paint is used on the final driving surface, and durable pavement marking is to be used for the permanent marking, all temporary paint shall be removed prior to applying the durable pavement marking. Removal will be at the contractor's expense unless otherwise specified in the contract. Removal shall be in accordance with [Sec 620.20.1.4](#).

620.10.2.3.5 When temporary pavement marking paint is used on the final driving surface and paint is to be used for the permanent marking, all temporary paint shall be installed in the same location and in the same sequence as the final pavement marking such that no temporary pavement marking will be visible after the final pavement marking is installed. Any temporary pavement marking that remains visible after final pavement marking shall be removed at the contractor's expense.

620.10.2.3.6 No-Passing Zones. When paint is used for temporary marking on two-lane, two-way roadways, all no passing zone lines shall be marked prior to leaving the work zone unattended.

620.10.2.4 Equipment. All equipment for application of pavement marking paint shall be as specified in [Sec 620.20.2.3](#).

620.10.3 Temporary Removable Pavement Marking Tape.

620.10.3.1 Description. This work shall consist of furnishing, placing and maintaining temporary removable pavement marking tape at locations shown on the plans or as directed by the engineer.

620.10.3.2 Material. All material shall be in accordance with [Division 1000](#), Material Details, and specifically as follows:

Item	Section
Temporary Removable Pavement Marking Tape	1048.10.2

620.10.3.3 Construction Requirements. All temporary removable pavement marking tape within the project limits shall be maintained by the contractor at the contractor's expense in a manner approved by the engineer. All temporary removable marking tape shall be installed according to the manufacturer's recommendations.

620.10.4 Temporary Non-Removable Pavement Marking Tape.

620.10.4.1 Description. This work shall consist of furnishing, placing and maintaining temporary non-removable pavement marking tape at locations shown on the plans or as directed by the engineer.

620.10.4.2 Material. All material shall be in accordance with [Division 1000](#), Material Details, and specifically as follows:

Item	Section
Temporary Non-Removable Pavement Marking Tape	1048.10.3

620.10.4.3 Construction Requirements. Temporary non-removable pavement marking tape shall be installed according to the manufacturer's recommendations.

620.10.5 Temporary Raised Pavement Markers.

620.10.5.1 Description. This work shall consist of providing, installing, maintaining and removing retroreflective temporary raised pavement markers (TRPMs) on roadway lane lines, centerlines or edge lines as shown on the plans or as directed by the engineer.

620.10.5.2 Material. All material shall be in accordance with [Division 1000](#), Material Details, and specifically as follows:

Item	Section
Temporary Raised Pavement Markers	1048.10.4

620.10.5.3 Construction Requirements.

620.10.5.3.1 TRPMs shall be of the colors shown on the plans unless otherwise directed by the engineer. Reflective faces shall be oriented to face traffic. TRPMs shall be installed according to the manufacturer's recommendations and placed as shown in the plans.

620.10.5.3.2 TRPMs, with covers, shall be used for Seal Coat as defined in [Sec 409](#) and for surface treatment projects as defined in [Sec 413](#) with the exception of [Sec 413.30](#) and [Sec 413.31](#).

620.10.5.3.3 On resurfacing projects, TRPMs shall be removed prior to placement of the next lift of asphalt. TRPMs placed on final wearing surfaces shall be removed in their entirety after permanent striping is placed. No TRPMs, shall be left on Commission Right of Way.

620.10.6 Cold Weather Pavement Markings.

620.10.6.1 Description. Cold weather pavement marking paint is described as cold weather waterborne paint or cold weather acrylic copolymer fast drying paint that is manufactured for use within the weather limitations specified herein.

620.10.6.2 Applications. Cold weather pavement marking paint may only be used for temporary pavement marking or as a substitute for Class 1 pavement marking paint when approved by the engineer, at no additional cost to the Commission. Cold weather pavement marking paint shall not be used as a permanent pavement marking in lieu of Class 2 pavement marking paint or any durable pavement marking.

620.10.6.3 Weather Limitations. Cold weather paint shall not be used except when the ambient air temperature and pavement surface temperature is greater than 35° F but less than 60° F. The pavement surface temperature and ambient air temperature shall be ascending from 35° F before striping operations begin. Cold weather pavement marking shall not be applied if the weather forecast for the eight hour period immediately following final application includes precipitation or temperatures below 35° F.

620.10.6.4 Material. Cold weather pavement marking paint and glass beads shall be in accordance with [Division 1000](#), Material Details, and specifically as follows:

Item	Section
Type P Drop-On Glass Beads	1048.30
Acrylic Copolymer Fast Dry Pavement Marking Paint	1048.10.1.1.1
Cold Weather Waterborne Pavement Marking Paint	1048.10.1.1.2

620.10.6.5 Construction Requirements. Cold weather pavement marking paint shall be applied to a wet thickness of no less than 18 mils. The mil thickness shall be increased as needed to account for the porosity of the pavement to achieve a target bead embedment of 60%. The wet film thickness of the applied paint may be tested with a paint thickness gauge as directed by the engineer. Type P drop-on glass beads, in accordance with [Sec 620.30.3](#) shall be used for cold weather paint applications.

620.10.6.5.1 Paint may be heated before application to a maximum temperature of 120° F for waterborne paint and 125° F for acrylic copolymer paint.

620.10.7 Method of Measurement. Final measurement of temporary pavement marking paint, temporary removable tape, temporary non-removable tape and temporary raised pavement markers will not be made except for authorized changes during construction or where appreciable errors are found in the contract quantity. No measurement will be made for any temporary pavement markings, regardless of type, when used as temporary pavement marking due to obliteration of existing markings as defined in [Sec 620.10.1.2](#).

620.10.7.1 Measurement of temporary pavement marking paint, temporary removable marking tape and temporary non-removable marking tape, when required, will be measured per linear foot.

620.10.7.2 Measurement of Temporary Raised Pavement Markers (TRPMs), when required, will be measured per each.

620.10.8 Basis of Payment.

620.10.8.1. The accepted quantity of temporary pavement marking paint, temporary removable tape, temporary non-removable tape and temporary raised pavement markers will be paid for at the contract unit price for each of the pay items included in the contract. Payment will be made for initial installation only and not for repair or replacement.

620.10.8.2 No payment will be made for any temporary pavement markings, regardless of type, when used as temporary pavement marking due to obliteration of existing markings as defined in [Sec 620.10.1.2](#).